

Title (en)

METHODS FOR ENCAPSULATION AND MICROCAPSULES PRODUCED THEREBY

Title (de)

VERFAHREN ZUR VERKAPSELUNG UND DARAUS HERGESTELLTE MIKROKAPSELN

Title (fr)

PROCÉDÉ D'ENCAPSULATION ET MICROCAPSULES AINSI PRODUITES

Publication

**EP 3062820 A1 20160907 (EN)**

Application

**EP 14792784 A 20141027**

Priority

- PL 40582013 A 20131028
- GB 201410898 A 20140619
- EP 2014072966 W 20141027

Abstract (en)

[origin: WO2015063015A1] The invention relates to methods for encapsulating a material comprising the steps of: (a) providing an aqueous solution or suspension of the material that is to be encapsulated, (b) warming the aqueous solution or suspension to a temperature that is sufficient to enable dissolution of a first biocompatible polymer in the aqueous solution or suspension without adversely affecting the properties of the material to be encapsulated, (c) dissolving the first biocompatible polymer in the aqueous solution or suspension, (d) de-aerating the solution or suspension obtained in step (c), (e) emulsifying the solution or suspension obtained in (d) in a biocompatible oil comprising a surfactant to create microdroplets, and (f) hardening the microdroplets by dropwise addition of an aqueous solution comprising Zn<sup>2+</sup> ions and a second biocompatible polymer to form microcapsules; the invention further relates to microcapsules obtained by methods of the invention and their uses.

IPC 8 full level

**A61K 47/36** (2006.01); **A61K 9/50** (2006.01)

CPC (source: EP GB US)

**A61K 9/5036** (2013.01 - EP US); **A61K 9/5089** (2013.01 - EP GB US); **A61K 47/36** (2013.01 - EP US); **A61P 31/04** (2017.12 - EP); **B01J 13/206** (2013.01 - GB)

Citation (search report)

See references of WO 2015063015A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2015063015 A1 20150507**; CA 2928967 A1 20150507; EP 3062820 A1 20160907; EP 3062820 B1 20210929; ES 2902551 T3 20220328; GB 201410898 D0 20140806; GB 2527335 A 20151223; HU E057189 T2 20220428; PL 231923 B1 20190430; PL 405820 A1 20150511; PT 3062820 T 20220106; US 10478401 B2 20191119; US 2016279070 A1 20160929

DOCDB simple family (application)

**EP 2014072966 W 20141027**; CA 2928967 A 20141027; EP 14792784 A 20141027; ES 14792784 T 20141027; GB 201410898 A 20140619; HU E14792784 A 20141027; PL 40582013 A 20131028; PT 14792784 T 20141027; US 201415032731 A 20141027